

SOUTH CAROLINA HIGH BLOOD PRESSURE CONTROL PROJECT

FINAL REPORT, 1977-1982

EXECUTIVE SUMMARY

**PREPARED BY
SPECIAL PROJECTS SECTION
DIVISION OF CHRONIC DISEASE
SOUTH CAROLINA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL CONTROL**

**DENNIS M. SHEPARD, M.A.T., PRINCIPAL INVESTIGATOR
FRANCES C. WHEELER, PH.D., CO-PRINCIPAL INVESTIGATOR
ELEANOR F. DEVLIN, M.P.H., PROJECT COORDINATOR**

FEBRUARY 15, 1984

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THE IMPACT OF COORDINATION ON THE CONTROL OF HIGH BLOOD PRESSURE

INTRODUCTION

On October 1, 1977, the South Carolina Department of Health and Environmental Control (DHEC) was awarded a contract by the National Heart, Lung, and Blood Institute to demonstrate the impact of coordination on the control of high blood pressure. This contract resulted in the establishment of the South Carolina High Blood Pressure Control Project (SCHBPCP), which had as its ultimate goal the reduction of morbidity and mortality associated with high blood pressure.

This report summarizes six years of continuing improvement of the knowledge base from which high blood pressure control policies and decisions are made in South Carolina. This summary report highlights the major efforts of the SCHBPCP to improve statewide communication, cooperation, and coordination in controlling high blood pressure, and it documents changes in the status of high blood pressure control in South Carolina since 1978. While the SCHBPCP was involved in creating and documenting these changes, it must be acknowledged that the control of high blood pressure is a complex process. Positive improvements have occurred, but direct cause and effect relationships cannot be solely attributed to the SCHBPCP.

MAJOR ACTIVITIES

1. COORDINATION

One of the first priorities of the SCHBPCP was to establish a formal mechanism for statewide communication and coordination of high blood pressure control activities in South Carolina. Through a contractual agreement with the American Heart Association, South Carolina Affiliate (AHA-SC), the Hypertension Task Force was established as a coordinating council to gather and share information, to define priorities, and to provide continuing consultation both to the SCHBPCP and to the AHA-SC. The Hypertension Task Force assisted in defining the nature and scope of project activities, while its members disseminated information about high blood pressure control strategies to their constituent organizations. Through this process, the Hypertension Task Force developed a strong identity of its own and has become recognized for its leadership and active role in community high blood pressure control. The AHA-SC provided staffing for the Hypertension Task Force, and through its fifty-two local heart units, also conducted high blood pressure public education, detection programs and professional education.

The South Carolina Medical Association assisted in the coordination of high blood pressure control activities and communication with the medical community through the Association's committees, councils, newsletters, and journals. The state and regional health planning agencies served as advocates for high blood pressure control activities, and, through their committee and board structures, provided a broad constituency of citizens interested in and knowledgeable about high blood pressure control. The HBP News, a quarterly newsletter published by the SCHBPCP, provided an additional method of sharing information and promoting coordination among high blood pressure care providers. Over 900 copies of the HBP News were

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distributed quarterly to persons involved in the high blood pressure control effort.

2. DATA COLLECTION

Hypertension-related mortality was examined through the analysis of annual mortality data maintained by the DHEC Office of Vital Records and Public Health Statistics. This provided a baseline assessment of mortality problems and allowed for monitoring selected causes of death to detect changes during the conduct of the SCHBPCP.

Hypertension-related morbidity was examined through use of hospital discharge data provided by the Office of Cooperative Health Statistics, Division of Research and Statistical Services, South Carolina Budget and Control Board. These data were also used in baseline needs assessment, with essential hypertension, cerebrovascular disease, and myocardial infarction selected as the major disease categories to be monitored during the course of the project.

A statewide household survey, the Carolina Health Survey, was conducted in 1979 and in 1982 to determine the prevalence of high blood pressure, as well as the status of awareness, treatment, and control of high blood pressure. The survey was conducted under sub-contract by the University of South Carolina School of Public Health to provide the SCHBPCP with direct blood pressure measurements of a random sample of adults aged 18 and over, as well as information about health status and utilization of health care services.

The SCHBPCP developed an inventory of high blood pressure care resources to identify gaps in services and to inform hypertensive patients about community services and resources that could assist them to control their condition. The project examined the availability of support services such as programs for weight control, nutrition counselling, smoking cessation, exercise, stress management, and patient education. This information was collected in 1978 and in 1982 and was published in catalog form for distribution to health care providers and consumers throughout the state.

3. PATIENT AND PROFESSIONAL EDUCATION

The professional education efforts of the SCHBPCP were designed to provide health care professionals with the knowledge and skills needed in the treatment, detection, diagnosis, and control of high blood pressure. Patient education activities primarily involved the provision of technical assistance and consultation in developing hypertension patient education programs.

The SCHBPCP cooperated with the University of South Carolina's Schools of Nursing and Public Health, the AHA-SC, the Clemson University Cooperative Extension Service, and other DHEC program areas in co-sponsoring major professional education programs addressing high blood pressure. The SCHBPCP stressed the importance of incorporating high blood pressure as a component of the ongoing professional education efforts of these groups. Information

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concerning high blood pressure control was also provided through presentations at state and local professional meetings and through professional journals and newsletters.

The seven Area Health Education Centers (AHECs) in South Carolina provided an especially important communications channel to those involved in professional education throughout the state. The project utilized the AHECs' Statewide Needs Assessment for Professionals to identify needs and to plan professional education in the area of high blood pressure. Over 50 inservice programs, workshops, and seminars were conducted with the AHECs and other co-sponsoring organizations.

The project also utilized the South Carolina Health Communications Network (HCN) to offer high blood pressure education programs to professional audiences in hospitals and health departments across the state. The SCHBPCP developed and presented fifteen HCN programs related to hypertension control; videotapes of these program remain available on loan through DHEC, AHEC, or HCN.

Direct provision of technical assistance and consultation regarding hypertension patient education was an area of extensive involvement for the SCHBPCP. Project staff assisted 85 health care providers in the development and implementation of hypertension patient education programs. A patient teaching guide, the "Hypertension Education Packet," initiated by the DHEC Division of Early Disease Detection, was finalized and published by the SCHBPCP and was distributed to health care providers throughout the state.

The SCHBPCP encouraged the use of existing patient education materials, but the project also responded to local needs in the development of additional tools for hypertension patient education. These included a number of materials about high blood pressure, nutrition, weight control, sodium intake, patient compliance and adherence to therapy. The SCHBPCP also reviewed high blood pressure materials developed by other organizations throughout the country, and several of these publications were adapted and reprinted by the project to meet the needs of South Carolina's hypertensive population. All of these materials remain available through DHEC's Educational Resource Center.

4. PUBLIC AWARENESS

The SCHBPCP utilized a variety of tools and communication channels to increase community high blood pressure awareness. To extend these efforts to the widest possible audience, the majority of the project's public awareness activities were conducted in cooperation with other community groups and organizations.

Project staff made over fifty presentations about high blood pressure to community groups and organizations, while exhibits and educational materials were provided for over sixty health fairs and festivals throughout the state. High blood pressure messages were displayed on city

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buses and billboards in several areas of the state. Through DHEC's Office of Public Affairs, over thirty press releases about high blood pressure control were distributed to newspapers and radio and television stations throughout the state. Many of these activities were linked to "May-High Blood Pressure Month" as a focal point for promoting public awareness of high blood pressure.

The SCHBPCP participated in the National High Blood Pressure Education Program's ongoing public awareness campaign, which stressed the importance of long-term therapy maintenance and the positive appeal of family protection. Public service announcements were hand-delivered each quarter to television stations throughout the state, and further media exposure was received through 30 radio and television talk shows. Project staff assisted the National Heart, Lung, and Blood Institute in the production of "The Silent Disease" at Columbia Cable Television, Inc.; videotapes of this program were distributed to all cable networks in South Carolina.

5. DETECTION AND TRACKING

To increase high blood pressure detection efforts, as well as further efforts directed at the aware hypertensive who was uncontrolled or inadequately controlled, the SCHBPCP stressed the development of detection efforts which include adequate follow-up activities. Blood pressure checks were promoted as a routine part of visits to physicians, health departments, and other points of entry into the health care system. The SCHBPCP also cooperated with other DHEC programs and the AHA-SC to assist industries in developing worksite high blood pressure control services. Technical assistance in this area was provided to over 50 businesses and industries, and in 1982, a total of 348 worksites participated in high blood pressure detection programs, with 28,621 employees screened.

The SCHBPCP also developed a worksite blood pressure kit entitled "Put High Blood Pressure Out Of Business." The kit was used to encourage business and management personnel to develop high blood pressure services for their employees. In addition, through a cooperative effort with the Health Systems Agencies, the AHECs, the AHA-SC and local Chambers of Commerce, regional workshops for upper management personnel provided in-depth information about the benefits of blood pressure control to businesses and industries.

To promote the improvement of follow-up services, the SCHBPCP assisted in evaluating and refining DHEC's high blood pressure tracking system for potential use by other community organizations. An effort has been made to identify the tracking system elements that are essential for the health department and for other agencies involved, and DHEC is currently developing an instrument that can be used by all groups involved in high blood pressure detection, tracking, and follow-up.

A statewide Multi-Agency Effort Toward Volunteer Training for High Blood Pressure Control was initiated by the SCHBPCP, and was co-sponsored by the United Way, South Carolina Medical Association, AHA-SC, Central South

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Carolina Chapter of the American Red Cross, DHEC, Columbia Urban League, State Health Planning and the Governor's Office. These groups have cooperatively developed a comprehensive training program to involve volunteers in the high blood pressure control effort throughout South Carolina.

RESULTS

Between 1978 and 1982, there was a modest increase (4.2%) in the total number of high blood pressure services available. This finding was consistent with the SCHBPCP's original premise that there were sufficient numbers of resources available in the community and that efforts should be directed to improving resource utilization and quality. The major change observed in service delivery was a significant increase (from 18% in 1978 to 42% in 1982) in the number of hospitals offering hypertension patient education programs.

Significant progress toward attaining the major goals of the SCHBPCP indicates that the project was successful in demonstrating the impact of coordination on the control of high blood pressure. While the goals outlined below were not the only measures of the project's success, they highlight the major end points or outcome indicators of the project's accomplishments.

Goal Number 1 was to reduce by 30% the number of persons in South Carolina with a diastolic blood pressure of 95 mm Hg or greater. The Carolina Health Survey showed that 7.3% of the population had a diastolic blood pressure of 95 mm Hg or greater in 1979, and that this proportion was decreased to 5.2% in 1982. This reduction in the number of persons with diastolic blood pressure of 95 mm Hg or greater represents 97% goal attainment.

Goal Number 2 was to achieve awareness of blood pressure levels in 88% of the hypertensive population. This goal was selected because of the importance of self-management in controlling high blood pressure. In 1979, the Carolina Health Survey showed that 78% of the hypertensive population were aware of their blood pressure level. In 1982, 87% of the hypertensive population were aware of their blood pressure level. This increase in awareness of blood pressure levels among the hypertensive population represents 99% goal attainment.

Goal Number 3 was to achieve controlled blood pressure in 45% of the state's hypertensive population. This goal was an important one since it gives a direct measure of the major thrust of the project--to improve the control of high blood pressure. A blood pressure reading of less than 160/95 mm Hg was considered as controlled blood pressure. In 1978, 28% of hypertensives were found to have their high blood pressure under control, and in 1982, this proportion had increased to 43%. This increase in controlled high blood pressure represents 96% goal attainment.

Goal Number 4 was to reduce by 10% the number of hospital discharges for cerebrovascular disease. This goal was based on the hypothesis that an increase in the number of controlled hypertensives would lead to a subsequent decrease in the number of hospitalizations for hypertension-related conditions.

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However, there was a 63% increase in the number of hospital discharges for cerebrovascular disease, from 4,460 in 1978 to 7,053 in 1981. While this large increase was unexpected, it was accompanied by parallel increases in the number of total hospital discharges in the state; thus, cerebrovascular disease represented 1.3% of total hospitalizations in 1978 and 1.8% of total hospitalizations in 1981. This difference was not significant ($p < 0.05$), but the desired goal of decreasing hospitalizations for cerebrovascular disease was not attained. Factors that may have contributed to this result include improvements in medical/surgical procedures, emergency medical care and transportation, disease identification and treatment, and hospital coding procedures, as well as increased numbers of elderly persons who are susceptible to these types of diseases.

Goal Number 5 was to reduce by 10% the number of hypertension-related deaths. This goal was selected because it was believed that a significant change in mortality related to hypertension would occur as a result of successful intervention. Deaths due to hypertension-related disease were 332 per 100,000 population in 1978 and 291 per 100,000 population in 1981. This decrease in mortality represents 124% goal attainment.

RECOMMENDATIONS

The following recommendations are based on the experiences of the SCHBPCP and identify the key elements needed to continue an effective community high blood pressure control effort in South Carolina. These recommendations are based on epidemiologic data collected by the project, the suggestions of medical and community service providers, and the advice of individuals and organizations involved in high blood pressure control in South Carolina.

- A. The public health sector should increase its capability to assist community groups and organizations in the development and implementation of community-based high blood pressure control services.
- B. A centralized data collection system should be developed to monitor and evaluate the necessary elements of an effective community high blood pressure control effort.
- C. A statewide toll-free telephone service should be established and staffed by qualified personnel who can provide information about high blood pressure control to patients, providers, and the general public.
- D. A high blood pressure surveillance system should be maintained to report annually on changes in morbidity, mortality, and high blood pressure control status in the community.

CONCLUSION

The philosophy of the SCHBPCP was to build a constituency which would be strong when the demonstration project was completed. This has been achieved, and the resulting network of interested individuals, agencies and organizations should continue to make South Carolina a national leader in the effort to control high blood pressure.

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